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TECH CENTER 1600/2900

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1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/548,998C

DATE: 04/24/2002

TIME: 15:48:30

Input Set : A:\BC1002 US NA Seq Listing.txt
 Output Set: N:\CRF3\04242002\I548998C.raw

5 <110> APPLICANT: Ebersole, Richard C.
 7 Hendrickson, Edwin
 11 <120> TITLE OF INVENTION: NUCLEIC ACID FRAGMENTS FOR THE IDENTIFICATION OF
 DECHLORINATING

12 BACTERIA

16 <130> FILE REFERENCE: BC1002 US NA

20 <140> CURRENT APPLICATION NUMBER: US 09/548,998C

22 <141> CURRENT FILING DATE: 2000-04-14

26 <150> PRIOR APPLICATION NUMBER: 60/129,511

28 <151> PRIOR FILING DATE: 1999-04-15

32 <160> NUMBER OF SEQ ID NOS: 60

36 <170> SOFTWARE: Microsoft Office 97

40 <210> SEQ ID NO: 1

42 <211> LENGTH: 24

44 <212> TYPE: DNA

46 <213> ORGANISM: Dehalococcoides ethenogenes

50 <400> SEQUENCE: 1

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54 <210> SEQ ID NO: 2

56 <211> LENGTH: 1377

58 <212> TYPE: DNA

60 <213> ORGANISM: Dehalococcoides ethenogenes

64 <400> SEQUENCE: 2

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69 aactgaagggt aataccgcat gtgatgggct gacataagtc ggttcattaa agccgcaagg	180
71 tgcttggtga ggggcttgcg tccgattagc tagttgggtg ggtaatggcc taccaaggct	240
73 tcgatcggtg gctgggtctga gaggatgatc agccacactg ggactgagac acggcccaga	300
75 ctctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac	360
77 gccgcgtgag ggatgaaggc ttccgggttg taaacctctt ttcacaggga agaataatga	420
79 cggtacctgt ggaataagct tcgggctaact acgtgccagc agccgcggta atacgtagga	480
81 agcaagcgtt atccggattt attgggcgta aagtgcgct aggtgggtctt tcaagttgga	540
83 tgtgaaattt cccggcttaa ccgggacgtg tcattcaata ctggtggact agagtacagc	600
85 aggagaaaac ggaattcccg gtgtagtggg aaaatgcgta gatatcgga ggaacaccag	660
87 aggcgaaggc ggttttctag gttgtcactg aactgagggc tcgaaagcgt ggggagcgaa	720
89 cagaattaga tactctggta gtccacgcct taaactatgg aactaggta tagggagtat	780
91 cgaccctctc tgtgccgaag ctaacgctyt aagtgtcccg cctggggagt acggtcgcaa	840
93 ggctaaaact caaaggaatt gacgggggccc cttacaagca gcggagcgtg tggtttaatt	900
95 cgaatgctaca cgaagaacct taccaagatt tgacatgcat gaagtagtga accgaaaggg	960
97 aaacgacctg ttaagtcagg agtttgacac ggtgctgcat ggctgtcgtc agctcgtgcc	1020
99 gtgaggtggt tgggtaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta	1080
101 gcgagactgc cccgcgaaac ggggaggaag gtgggggatga cgtcaagtca gcatggcctt	1140
103 tatactcttg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac	1200
105 tggagctaata ccccaaagct gtccctcagtt cggattgcag gctgaaaccc gcctgcatga	1260

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107 agttggagtt gctagtaacc gcatatcagc aaggtgcggt gaatacgttc tcgggccttg 1320
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112 <210> SEQ ID NO: 3
114 <211> LENGTH: 1378
116 <212> TYPE: DNA
118 <213> ORGANISM: Dehalococcoides ethenogenes
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125 gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga 120
127 aactgaaggt aataccgcat gtggtgggccc gacataagtt ggttcactaa agccgtaagg 180
129 tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaacggcc taccaaggct 240
131 tcgatcggtg gcttggtctg agaggatgat cagccacact gggactgaga cacggcccag 300
133 actcctacgg gaggcagcag caaggaatct tgggcaatgg gcgaaagcct gacccagcaa 360
135 cgccgcgtga gggatgaagg ctctcggggt gtaaacctct ttccacaggg aagaataatg 420
137 acgggtacctg tggaataagc ttcggctaac tacgtgccag cagccgcggt aatacgtagg 480
139 aagcaagcgt tatccggatt tattggcgct aaagtgcgct taggtggtct ttcaagttgg 540
141 atgtgaaatt tcccggctta accgggacgt gtcattcaat actgttgac tagagtacag 600
143 caggagaaaa cggaattccc ggtgtagtgg taaaatgcgt agatatcggg aggaacacca 660
145 gaggcgaagg cggttttcta ggtgtgact gacactgagg ctcgaaagcg tggggagcga 720
147 acagaattag atactctggt agtccacgcc ttaactatg gacactaagt atagggagta 780
149 tcgacctctc ctgtgccgaa gctaacgctt taagtgtccc gcctggggag tacggtcgca 840
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157 cgtgaggtgt ttggttaagt cctgcaacga gcgcaaccct tgttgctagt taaattttct 1080
159 agcgagactg ccccgcgaaa cggggagga ggtggggatg acgtcaagtc agcatggcct 1140
161 ttatatcttg ggtacacac acgctacaat ggacagaaca ataggttgca acagtgtgaa 1200
163 ctggagctaa tctctcaaagc tgtcctcagt tcggattgca ggctgaaacc cgctgcagt 1260
165 aagttggagt tgctagtaac cgcatatcag caaggtgcg tgaatacgtt ctcgggcctt 1320
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174 <212> TYPE: DNA
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185 aactgaaggt aataccgcat gtggtgggccc gacatatggt ggttcactaa agccgtaagg 180
187 cgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggcc taccaaggct 240
189 tcgatcggtg gcttggtctg agggatgatc agccacactg ggactgagac acggcccaga 300
191 ctccctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360
193 gccgcgtgag ggatgaaggc tttcggggtt taaacctctt ttcataggga agaataatga 420
195 cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggtg atacgtagga 480
197 agcaagcggt atccggattt attgggcgta aagtgcgct aggtggtctt tcaagttgga 540
199 tgtgaaattt cccggcttaa ccgggacgag tcattcaata ctgttggaact agagtacag 600
201 aggagaaaaa ggaattcccg gtgtagtggt aaaatgcgta gatatcgga ggaacaccag 660
203 aggcgaaggc ggttttctag gttgtcactg aactgaggc tcgaaagcgt ggggagcgaa 720
205 cagaattaga tactctggtg gtccacgcct taaactatgg acactaggta tagggagtat 780
207 cgacctctc tgtgccgaag ctaacgcttt aagtgtcccg cctggggagt acggtcgcaa 840

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209 ggctaaaact caaaggaatt gacggggggcc cgcacaagca gcgagcgctg tggtttaatt 900
211 cgatgctaca cgaagaacct taccaagatt tgacatgcat gtagtagtga actgaaaggg 960
213 gaacgacctg ttaagtcagg aacttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc 1020
215 gtgaggtgtt tggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta 1080
217 gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt 1140
219 tatactcttg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac 1200
221 tggagctaat ccccaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga 1260
223 agttggagtt gctagtaacc gcatatcagc atgggtgcgtt gaatacgttc tcgggccttg 1320
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234 <213> ORGANISM: Dehalococcoides ethenogenes
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243 aactgaaggt aataccgcat gtggtgggccc gacatatgtt ggttcactaa agccgtaagg 180
245 cgcttggtga ggggcttgcg tccgattagc tagttggttg ggtaatggcc taccaaggct 240
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249 ctccctacgg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360
251 gccgcgtgag ggatgaaggc ttccgggttg taaacctctt ttcataggga agaataatga 420
253 cggtagctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga 480
255 agcaagcgtt atccggattt attgggcgta aagtgaagcgt aggtggtctt tcaagttgga 540
257 tgtgaaatth cccggcttaa ccgggacgag tcattcaata ctggttgact agagtacagc 600
259 aggagaaaac ggaattcccg gtgtagtggt aaaatgcgta gatatcgga ggaacaccag 660
261 aggcgaaggc ggttttctag gttgtcactg acaactgaggc tcgaaagcgt ggggagcgaa 720
263 cagaattaga tactctggtg gtccacgcct taaactatgg acaactaggta tagggagtat 780
265 cgaccctctc tgtgccgaag ctaacgcttt aagtgtcccg cctggggagt acggtcgcaa 840
267 ggctaaaact caaaggaatt gacggggggcc cgcacaagca gcgagcgctg tggtttaatt 900
269 cgatgctaca cgaagaacct taccaagatt tgacatgcat gtagtagtga actgaaaggg 960
271 gaacgacctg ttaagtcagg aacttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc 1020
273 gtgaggtgtt tggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta 1080
275 gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt 1140
277 tatactcttg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac 1200
279 tggagctaat ccccaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga 1260
281 agttggagtt gctagtaacc gcatatcagc atgggtgcgtt gaatacgttc tcgggccttg 1320
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286 <210> SEQ ID NO: 6
288 <211> LENGTH: 1377
290 <212> TYPE: DNA
292 <213> ORGANISM: Dehalococcoides ethenogenes
296 <400> SEQUENCE: 6
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299 gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga 120
301 aactgaaggt aataccgcat gtggtgggccc gacataagtt ggttcactaa agccgtaagg 180
303 tgcttggtga ggggcttgcg tccgattagc tagttggttg ggtaacggcc taccaaggct 240
305 tcgatcggta gctggtctga gaggatgac agccacactg ggactgagac acggcccaga 300
307 ctccctacgg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360
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311 cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggtg atacctagga 480
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315 tgtgaaattt cccggcttaa ccgggacgtg tcattcaata ctgttgact agagtacagc 600
317 aggagaaaac ggaattcccc gtgtagtgtt aaaatgcgta gatatacgga ggaacaccag 660
319 aggcgaaggg ggttttctag gttgtcactg aactgagggc tcgaaagcgt ggggagcgaa 720
321 cagaattaga tactctggta gtccacgcct taaactatgg aactaggta tagggagtat 780
323 cgaccctctc tgtgccgaag ctaacgcctt aagtgtcccg cctggggagt acggtcgcaa 840
325 ggctaaaact caaaggaatt gacggggggc cgcacaagca gcggagcgtg tggtttaatt 900
327 cgatgctaca cgaagaacct taccaagatt tgacatgcat gaagtagtga accgaaaggg 960
329 aaacgacctg ttaagtcagg agtttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc 1020
331 gtgaggtgtt tggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta 1080
333 gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt 1140
335 tatactcttg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac 1200
337 tggagctaat cctcaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga 1260
339 agttggagtt gctagtaacc gcatatcagc aaggtgcggt gaatacgttc tcgggccttg 1320
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344 <210> SEQ ID NO: 7
346 <211> LENGTH: 1443
348 <212> TYPE: DNA
350 <213> ORGANISM: Dehalococcoides ethenogenes
354 <220> FEATURE:
356 <221> NAME/KEY: misc_feature
358 <222> LOCATION: (1353)..(1353)
360 <223> OTHER INFORMATION: N = A or G or C or T/U, unknown or other (any)
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367 gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga 120
369 aactgaaggt aataccgcat gtgatgggct gacataagtc ggttcattaa agccgcaagg 180
371 tgcttggtga ggggcttgcg tccgattagc tagttgggtg ggtaatggtc taccaaggct 240
373 tcgatcggtg gctggcttga gaggatgac agccacactg ggactgagac acgggccaga 300
375 ctccactcgg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360
377 gccgcgtgag ggatgaaggg tttcgggttg taaacctctt ttacaggga agaataatga 420
379 cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggtg atacctaggg 480
381 aagcaagcgt tatccggatt tattgggcgt aaagtgcggt taggtggtct ttcaagttgg 540
383 atgtgaaatt tcccggctta accgggacgt gtcattcaat actgttgga tagagtacag 600
385 caggagaaaa cggaattccc ggtgtagtgg taaaatgcgt agatatcggg aggaacacca 660
387 gaggcgaagg cggttttcta ggtgtcact gacactgagg ctgaaagcgt tggggagcga 720
389 acagaattag atactctggt agtccacgcc ttaaactatg gacactaggt atagggagta 780
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W--> 409 gggccttgta cacaccgccc gtcacgtcat ganagccggt aacacttgaa gtcgatgtgc 1380
411 caaccgcaag gaggcagtcg ccgaggggtg gactggtaat tgggacgaag tcgtaacaag 1440

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1443

413 gta
416 <210> SEQ ID NO: 8
418 <211> LENGTH: 47
420 <212> TYPE: DNA
422 <213> ORGANISM: Artificial Sequence
426 <220> FEATURE:
428 <223> OTHER INFORMATION: Consensus sequence derived from DHE-PL, DHE-STF, DHE-DAB,

DHE-PIN

429 and DHE-DLL at bases E180-E226.
431 <220> FEATURE:
433 <221> NAME/KEY: misc_feature
435 <222> LOCATION: (5)..(5)
437 <223> OTHER INFORMATION: R = A or G
441 <220> FEATURE:
443 <221> NAME/KEY: misc_feature
445 <222> LOCATION: (11)..(11)
447 <223> OTHER INFORMATION: Y = C or T
451 <220> FEATURE:
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455 <222> LOCATION: (18)..(18)
457 <223> OTHER INFORMATION: W = A or T
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477 <223> OTHER INFORMATION: Y = C or T
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487 <223> OTHER INFORMATION: Y = C or T
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495 <222> LOCATION: (42)..(42)
497 <223> OTHER INFORMATION: Y = C or T
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507 <211> LENGTH: 20
509 <212> TYPE: DNA
511 <213> ORGANISM: Dehalococcoides ethenogenes
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519 <210> SEQ ID NO: 10
521 <211> LENGTH: 20
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529 <400> SEQUENCE: 10

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/548,998C

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Input Set : A:\BC1002 US NA Seq Listing.txt
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 1353

VERIFICATION SUMMARY

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L:409 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:1320